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DiSanto et al.

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[54] **METHOD FOR WRITING DATA TO AN ELECTROPHORETIC DISPLAY PANEL**

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[52] **U.S. Cl.** **345/107**; 345/84

[58] **Field of Search** 340/787, 788, 805, 783, 340/785, 786, 811, 814; 359/296; 358/241, 236

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,630,122	12/1986	Morokawa	358/241
4,655,897	4/1987	DiSanto et al.	359/296
4,732,830	3/1988	DiSanto et al.	359/54
4,742,345	5/1988	DiSanto et al.	340/787
4,833,464	5/1989	DiSanto et al.	340/787
4,901,066	2/1990	Kobayashi et al.	340/783

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[57] **ABSTRACT**

A method for writing data to an EPID display includes loading data for a line of pixels onto the grid lines of the EPID. Instead of writing that single line fully by enabling the associated cathode row with a logical "1" voltage for the time necessary to cause complete pigment particle migration, the associated cathode line and at least the next adjacent cathode line are enabled for a shorter duration than is required for fully writing the lines. The grid is then loaded with data corresponding to the next line of pixels and the set of cathode lines enabled is shifted by one line, such that at least one cathode line previously enabled is enabled for a subsequent time whereby particle migration for writing is made more complete where the grid data is constant from one row of pixels to the next.

26 Claims, 4 Drawing Sheets